

### ABSTRACT

A method for manipulating genetic material, the method comprising disrupting cells so as to liberate genetic material contained in the cells; contacting the genetic material to a silica column in a manner to cause the genetic material to become immobilized to the column; labeling the immobilized genetic material; and eluting the labeled material from the column. Also provided is a two-buffer process for manipulating genetic material, the process comprising: contacting cells containing the genetic material to a silica column; creating a first fraction of cell detritus and a second fraction containing the genetic material; confining the genetic material to the column; removing the cell detritus; contacting the genetic material with radicals so as to produce reactive aldehyde groups on the genetic material, and attaching chromophore to the genetic material.